

## Abstract

The invention relates to a sensor for measuring a gas concentration or ion concentration having

- a substrate (11);
- a drain (3) fashioned on the substrate;
- a source (2) fashioned on the substrate;
- a channel region (4) of the substrate, which is arranged between drain (3) and source (2);
- a conductive guard ring (1), which is arranged outside the channel region;
- a sensitive gate layer (8) whose potential depends on an ambient gas concentration or ion concentration, there being an air gap (10) between the gate layer and the channel region (4).

In order to create a sensor that can be manufactured at low cost, has small dimensions, and nevertheless guarantees a high accuracy of measurement for the change in concentration as a function of time, it is provided that a ring structure (20) made of a different surface material having a surface conductivity lower than that of the rest of the surface region is fashioned between the guard ring (1) and the channel region (4).

Figure 2